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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/750,317	12/29/2000	Robert Walter Schreiber	52817.000123	6993

29315 7590 03/18/2003

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RESTON, VA 20190

EXAMINER

VEILLARD, JACQUES

ART UNIT	PAPER NUMBER
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2175

DATE MAILED: 03/18/2003

9

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
09/750,317

Applicant(s)  
Robert Schreiber

Examiner  
JACQUES VEILLARD

Art Unit  
2175



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Dec 29, 2000
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 3, 8 6) ☐ Other:

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### **DETAILED ACTION**

1. This is in response to the Applicant's application filed on 12/29/2000.
2. Claims 1-40 are presented for examination.
3. Claims 1, 11, 21, and 31 are the independent claims. Other claims are the dependent claims.

### ***Information Disclosure Statement***

4. The information disclosure statement submitted on 1/23/2001 (paper No. 3), and 2/5/2003 (Paper No. 8) was filed after the mailing date of the application on 12/29/2000. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

### ***Drawings***

5. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior

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art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shibamiya et al. (U. S. Pat. No. 4,956,774, hereinafter Shibamiya).

As per claims 1, 11, 21, and 31, Shibamiya teaches a database method optimizer using most frequency values statistics for statistical matching (See col.5, lines 3-7). Similarly, the method taught by Shibamiya comprising the steps of: receiving a request for a first hierarchical data list with a predetermined tolerance and indicating predetermined units (See Fig.1, elements 12, and 16, col.3, line 66 through col.4, line 5, and col.5, lines 11-14); searching at least one object store for a second hierarchical data list (See col.2, lines 34-50, and col.25, line 52 through col.26, line 10); determining whether the second hierarchical data list satisfies the request (See col.6, lines 8-15, col.26, lines 11-47, and col.27, line 60 through col.28, line 2); and wherein the step of determining comprises determining a first statistical curve for the first hierarchical data list (See Fig.2, represents a histogram of the actual distribution index key values).

These passages of Shibamiya are not explicitly about hierarchical data. However, Shibamiya teaches a method suggesting a B-tree for storing index's pages (See col.1, lines 64-67).

It would have been obvious for one ordinary skill in the art at the time of the invention to modify the Applicant's teachings by the teachings of Shibamiya because Shibamiya provides an optimizer estimation using mathematical formulas that require the statistical information as

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input, wherein the calculation that the mathematical formulas define make certain assumption about the interpretation of the statistical information in order to determine a statistical curve.

As per claims 2, 12, 22, and 32, Shibamiya teaches an optimizer database using most frequent values statistics (See Fig.2, represents a histogram of the actual distribution index key values, from these values a statistical curve can derive for as a second data list).

As per claims 3, 13, 23, and 33, Shibamiya teaches the claimed invention limitations, wherein the step of determining whether the second hierarchical data list satisfies the request comprises determining an overlap of the first statistical curve and the second statistical curve (See col.28, lines 41-67 to col.29, lines 1-7). Shibamiya shows that there is an overlapping of data between two tables T1 and T2.

As per claims 4, 14, 24, and 34, Shibamiya teaches the claimed invention limitations, further comprising the step of converting the predetermined units to other units (See col.29, lines 9-32).

As per claims 5, 15, 25, and 35, Shibamiya teaches the claimed invention limitations, further comprising the step of presenting the second hierarchical data list that satisfies the request (See col.26, lines 11-47, and col.27, line 60 through col.28, line 2).

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As per claims 6, 16, 26, and 36, Shibamiya teaches the claimed invention limitations, further comprising the step of presenting a match result notification (See col.2, lines 34-38, and col.5, lines 3-5).

As per claims 7, 17, 27, and 37, Shibamiya teaches the claimed invention limitations, further comprising the step of presenting a non-match result notification (See col.29, lines 60-67).

As per claims 8, 18, 28, and 38, Shibamiya teaches the claimed invention limitations, further comprising the step of indicating a closeness of the second hierarchical data list satisfying the request (See col.5, lines 3-7, and col.26, lines 16-19). Shibamiya shows by the percentage frequencies of occurrence how close is the matching that satisfies the request query.

As per claims 9, 19, 29, and 39, Shibamiya teaches the claimed invention limitations, wherein the statistical curve is based on a normal distribution (See Abstract, lines 10-13, and col.16, lines 61-62).

As per claims 10, 20, 30, and 40, Shibamiya teaches the claimed invention limitations, wherein the predetermined tolerance is set by a system administrator (See col.26, lines 21-27,

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and col.29, lines 13-32). Shibamiya teaches a range of values equivalent to a tolerance of set of values assuming entering by a human operator.

***Other Prior Art Made of Record***

8. Parham U. S. Pat. No. 5,805,860,

Natarajan U. S. Pat. No. 6,388,592,

Conley et al. U. S. Pat. No. 6,434,745,

Arie Shoshani: Olap and statistical databases: similarities and difference, ACM, June 97, pp. 185-196,

Michael V. Mannino et al.: Statistical profile estimation in database systems, ACM, vol.20, No.3, Sept.898, pp. 191-221,

Wei Wang et al.: An approach to active spatial data mining based on statistical information, IEEE, vol.12, No.5, Sept./oct.. 2000, pp. 715-728,

Francesco M. Malvestuto: A universal scheme approach to statistical database containing homogeneous summary tables, ACM, vol.18, No.4, Dec. 93, pp. 678-708.

***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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10. **Any response to this action should be mail to:**

Commissioner of Patent and Trademarks

Washington, D.C. 20231

**Or faxed to:**

(703) 746-7239 (for formal communication intended for entry)

**Or:**

(703) 746-7240 ( for informal of draft communications, please label

“PROPOSED” or “DRAFT”)

Hand - delivered responses should be brought to Crystal Park II, 2021 Crystal Drive, Arlington.

VA, Fourth Floor Lobby (Receptionist Telephone No. (703) 305-3900).

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacques Veillard whose telephone number is (703) 305-7094. The examiner can normally be reached Monday through Friday from 9:30 AM to 4: 30 PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dov Popovici, can be reached on ( 703) 305-3830. The fax phone number for this group is (703) 308-5403.



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HOSAIN T. ALAM  
PRIMARY EXAMINER

*Jacques Veillard*

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Jacques Veillard  
Patent Examiner TC 2100

March 7, 2003